Remarks

The specification and claims 1, 3-14 and 21 have been amended as shown above. Support for the claim amendments may be found in the written description at, e.g., page 4, lines 2-5, page 5, lines 14-25, page 6, lines 21-27, page 7, lines 8-10, page 8, lines 1-7, page 9, line 16 through page 10, line 4, page 12, line 25 through page 13, line 9, page 13, line 29 through page 14, line 5, page 18, lines 13-16 and page 19, lines 11-14.

Following entry of this Amendment, claims 1-21 will be pending in this application, with claims 15-21 having been withdrawn. Applicants request rejoinder of claim 21 with claims 1-14. Claim 21 depends from apparatus claim 14, is an apparatus claim and not a method claim, has been amended to correct the claim preamble, and could readily be examined with claims 1-14 without undue extra effort.

Rejection of Claims 1, 2 and 4-9 under 35 U.S.C. §103(a)

Claims 1, 2 and 4-9 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. US 2003/0150789 A1 (Miller et al.) in further view of U.S. Patent No. 4,940,134 (Aoki et al.), on grounds *inter alia* that:

> *"Regarding claim 1, Miller teaches an apparatus capable of reducing the liquid content of a material comprising a particulate/liquid dispersion or suspension, the apparatus comprising:*
>
> *"A receiving zone to contain the material (0010), at least one pair of electrodes spaced apart within the receiving zone (0011 and 0012), having a potential difference there across and hence across the material in use to drive electro-kinetic dewatering (0021), and a drain means to enable removal of water (0031), wherein at least one of the electrodes comprises a textile or other synthetic material at least in part associated with a conductor(0035), but does not disclose said conductor comprising a plurality of elongate conducting elements woven into the textile. Aoki does disclose the use of a belt made of rod or metal plates used to dewater material by heat treatment. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the belt in the Aoki reference. since it would yield the added benefit of conduction. (Column 17 lines 47-60)."* (see the Final Rejection at page 3).

The comments on pages 4-6 of the Final Rejection dealt not only with claims 1, 2 and 4-9 but also with claims 3, 10 and 14. Applicants assume that the rejection was intended to be made against claims 1-10 and 14.

Applicants request reconsideration in any event. Miller et al. describe a dewatering apparatus **8** employing a polymeric web **10** having rectangular apertures into which are mounted conductive mesh segments or patches **21** (see e.g., paragraph 0032 and Figs. 1 and 3, reproduced below):

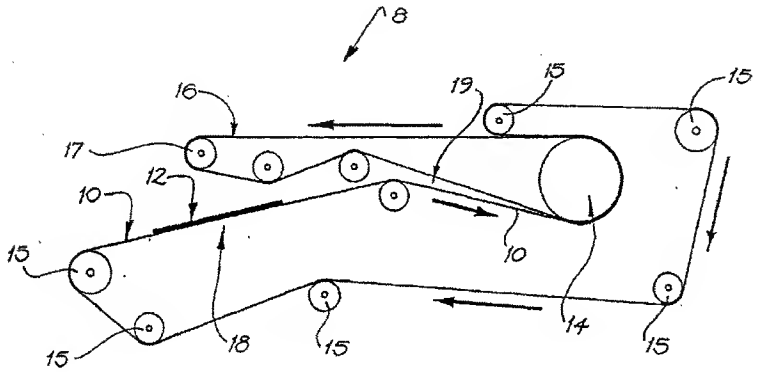


FIG. 1

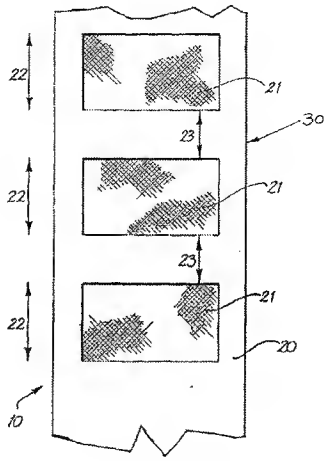
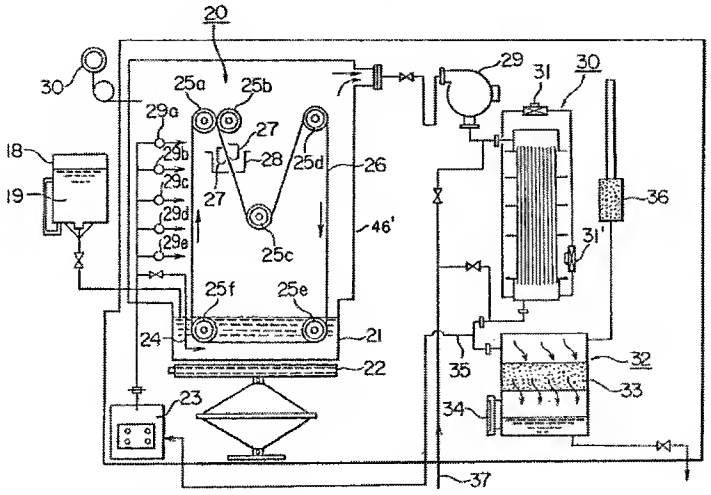


FIG. 3

The patches **21** are either externally affixed at all sides to the polymeric web (paragraph 0035) "or actually formed from metallic wire mesh which has been woven into the primary conveyor belt **10**" (see e.g., paragraph 0035; see also paragraph 0014). Although this latter patch mounting technique may involve weaving the patch edges into the rectangular polymeric web apertures, the interior and major part of Miller et al.'s patches **21** would be made entirely from metallic wire mesh. Miller et al.'s apparatus does not include an array of elongate electrically conducting elements in, threaded through, woven or knitted into the textile or other synthetic material "such that the electrode constitutes where so associated a primarily polymeric filtration structure incorporating the array".

Aoki et al. describe a photographic waste processing apparatus including heated belt **26**, **231** or **403** made of various materials and equipped with a "scoop-up" or carrying means for picking up waste solution (see e.g., col. 16, 29-35, col. 17, lines 47-51, col. 18, lines 7-12, Figs. 2 and 4-7, and Fig. 3, reproduced below):

FIG. 3



In place of belt **231** (see e.g., Fig. 7), Aoki et al.'s apparatus may include a "chain or belt made of plates or rods made of metal, ceramic or synthetic resin whose surface is formed to have a number of holes, grooves or flutes" (see e.g., col. 17, lines 51-54). The hole, grooves or flutes presumably help in the "scoop-up" function. The waste solution on the chain or belt may be heated using heated air (see e.g., col. 17, lines 40-44 and Fig. 5). The surface color of belt **231** preferably is black to improve heat absorption (see e.g., col. 17, lines 58-60). This relates to thermal absorption, not electrical conductivity. Aoki et al. say nothing regarding electrokinetic dewatering and nothing regarding making belt **231** or the "chain or belt made of plates or rods made of metal, ceramic or synthetic resin" electrically conductive. Doing so presumably would reduce Aoki et al.'s desired heat absorption characteristic.

If asked to consider the matter, a person having ordinary skill in the art of electrokinetic dewatering would not combine Miller et al. with Aoki et al. Even if combined, Miller et al. and Aoki would not provide the apparatus of rejected claims 1-10 and 14. Applicants accordingly request withdrawal of the rejection of claims 1, 2 and 4-9 (or claims 1-10 and 14 as noted above) as being unpatentable over Miller et al. in view of Aoki et al.

Rejection of Claims 10-12 under 35 U.S.C. §103(a)

Claims 10-12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Miller et al. in view Aoki et al. as applied above, in further view of UK Patent Application No. GB 2 327 686 A (Netlon Limited), on grounds *inter alia* that:

> *"Regarding claim 10, Miller in view of Aoki teaches an apparatus in accordance with claim 9 but does not teach wherein the electrode comprises a conducting, geosynthetic material. The Netlon limited reference teaches the use of geosynthetic material in combination with electro kinetics. (Page 1 line 1-17) It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the synthetic material for the electrode in the Miller reference with the geosynthetic material in the Netlon reference, since it has been held to be within the general skill of a worker in the art to select a known material on the basis on its suitability for the intended use as a matter of obvious design choice. The geosynthetic material is known to be effective, so it would be an obvious choice of available materials."* (see the Final Rejection at page 6).

Applicants request reconsideration. Netlon Limited describes an in-ground soil electrode **1** (see e.g., page 2, lines 4-8 and Fig. 3, reproduced below):

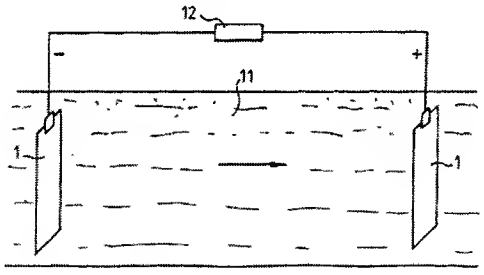


FIG.3

Netlon Limited has not been shown to describe an apparatus through which a particulate/liquid dispersion or suspension travels. Applicants recognized that conducting geosynthetic materials could be used in their claimed apparatus. No showing has been made of such a recognition by any other worker, and the value of applicants' recognition should not be assumed away by the Final Rejection. Applicants accordingly request withdrawal of the rejection of claims 10-12 as being unpatentable over Miller et al. in view of Aoki et al. and in further view of Netlon Limited.

Rejection of Claim 13 under 35 U.S.C. §103(a)

Claim 13 was rejected under 35 U.S.C. §103(a) as being unpatentable over Miller et al. in view of Aoki et al. and in further view of Netlon Limited, and U.S. Patent No. 4,680.104 (Kunkle et al.), on grounds that:

> *"Regarding claim 13, Miller in view of Aoki in further view of the Netlon reference teaches an apparatus in accordance with claim 11 but does not teach wherein a conducting element comprises metal coated in mixed metal oxide. Kunkle does teach the use of a conducting element comprises metal coated in mixed metal oxide. It would have been obvious to one of ordinary skill in the art to modify Miller in view of Netlon with Kunkle and use a conducting element comprising of metal coated in mixed metal oxide since it is known in the art that metal oxides are effective in dewatering. It is within the ordinary skill of one in the art to use methods known to work. (Example US 4,680,104 Kunkle et al. Column 8 line 55-60)"* (see the Final Rejection at page 3).

Applicants request reconsideration. Kunkle et al. describe an electrokinetic dewatering apparatus with an upper belt **201** and lower belt **301** equipped with perforations or apertures **306** (see e.g., col. 1, lines 40-50, col. 2, lines 1-7 and Fig. 1, reproduced below):

FIG. 1

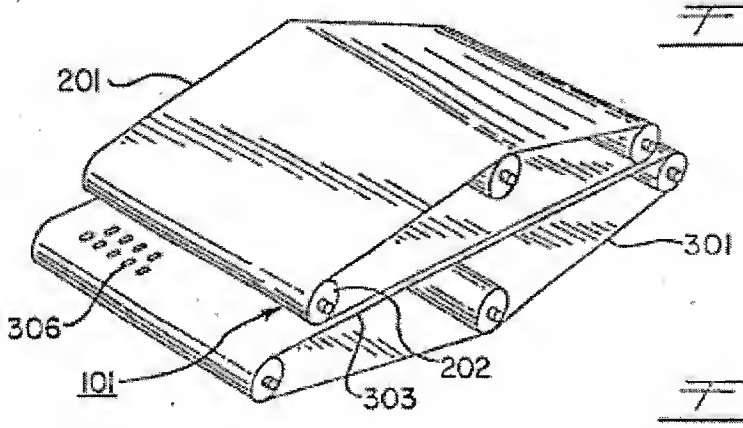


FIG. 3

Belt **201** may have a titanium or tantalum substrate with a mixed metal oxide coating, and belt **301** may be made from perforated stainless steel (see e.g., col. 8, lines 54-64). Kunkle et al. 's belts have all-metal construction. Adding Kunkle et al. to Miller et al., Aoki and Netlon Limited would not provide an apparatus having a primarily polymeric structure or a filtration structure. Applicants accordingly request withdrawal of the rejection of claim 13 as being unpatentable over Miller et al. in view of Aoki et al. and in further view of Netlon Limited, and Kunkle et al.

Conclusion

Applicants have made an earnest effort to address the rejections. Withdrawal of all rejections and passage of the application to the issue branch are accordingly requested. The Examiner is encouraged to telephone the undersigned attorney if there any questions regarding the application or this amendment.

Respectfully submitted on behalf of
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